



## Construction Procedure Bulletin

### CPB 02-5 Contract Change Order (CCO) Coding System

References: *Standard Specifications*, Section 4-1.03, "Changes"  
*Construction Manual*, Section 5-307B, "Contract Change Order Category Codes"  
*Public Contract Code*, Sections 10120 and 10250-10252

Effective Date: January 6, 2003

Approved:

  
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Approval Date: December 20, 2002

### Background

Section 10120 of the *Public Contract Code* mandates that "before entering into any contract for a project, Caltrans shall prepare full, complete, and accurate plans and specifications and estimates of cost...." To be effective, Caltrans must achieve a balance between fulfilling this mandate, and mitigating impacts to public traffic (such as increased user costs because of congestion or deferred maintenance) due to prolonged project delivery. Consequently, construction contract changes are usually inevitable.

Caltrans is authorized to make necessary changes to the work on construction projects, in accordance with Sections 10250 through 10252 of the *Public Contract Code*. Caltrans uses contract change orders (CCO's) to modify contract terms, adjust compensation or time, make changes to the planned work, or pay for extra work, in accordance with Section 4-1.03, "Changes," of the *Standard Specifications*.

In general, construction projects are more costly, take longer to build, and are more difficult to administer when there are numerous changes. Good contract management, therefore, depends on an effective means to track and control changes. A system that accurately categorizes CCO's according to the reasons for the changes provides a useful tool for lessons learned, to identify and improve contract documents or administration procedures for future projects.

The current coding system only provides subjective generalities as to the cause of change orders. The information was of little use in identifying and correcting the underlying problems. The new coding system will allow Caltrans to identify areas of high extra work or rework costs, and to focus efforts on correcting the basis.

### Existing Procedure

The existing codes were developed in 1984 as a management tool to gather statewide data about the scope of contract changes. Described in Section 5-307B of the *Construction Manual*, the existing procedure

requires the resident engineer to assign each CCO a three-character alphanumeric code that categorizes the type of change and identifies the Caltrans unit that originated or could have prevented the need for it.

### **New Procedure**

The resident engineer is responsible for assigning a four-letter code to every CCO according to the main reason for the change. Preferably, there should only be one issue per CCO. For CCO's with multiple distinct issues, assign the coding based on the one issue that has the greatest impact to the project. Assign the coding according to the reason for the change, not how the problem was corrected. The resident engineer shall enter this code on Forms CEM-4903, "Contract Change Order Memorandum" and CEM-4901, "Contract Change Order Input."

The CCO code will identify discrete pieces of information about the change:

1. The type of CCO (first character)
2. The specification which authorizes the change, or the physical asset which is affected by the change (second character)
3. The source document that led to the need for a change (third and fourth characters), or
4. The disposition of a dispute resolution (third and fourth characters)

Administrative types of CCO's (accelerations, and changes that are anticipated and authorized by existing administrative specifications) will only require minimal coding information. Consequently, extra coding positions will be assigned a default character placeholder, the letter Z. Assign characters from left to right, as subsequent character code selection is dependent on what is chosen for the preceding characters.

### **Character 1: CCO Type**

Using the codes in Table 1, "CCO Type," categorize the CCO according to its general type (for example: administrative, dispute resolution, etc.). Coding for dispute resolution takes precedence over coding for any other potential scenario. After selecting the first character code, use the corresponding directions on Table 1 to complete the coding for the remaining three characters.

### **Character 2: Specification, or Physical Asset**

Next, based on your selection for the first character code, and using the directions within Table 2, "Specification, or Physical Asset," select the code that most accurately identifies the appropriate administrative specification, or the affected physical asset. Enter this code as the second character.

### **Characters 3 and 4: Source Document, or Dispute Disposition**

If the CCO is needed to bring about a plan or specification change (first character code is C or D), use Table 3, "Source Document," to identify the pair of character codes that together best describe the original document that created the need for the CCO. The reason for the change may have been due to constructability issues, errors, conflicts, inconsistencies; or introduction of improved products, means

or methods; or for any other reason, provided that the change will affect some physical aspect of the planned work.

If the CCO is for a dispute resolution (first character code is *E*, *F*, *G*, or *H*), use Table 4, "Dispute Disposition," to identify the third and fourth character codes that respectively describes when and how the dispute was resolved. From Table 4, first select a code for the third character that most closely identifies the time frame *prior* to when the dispute was resolved. The milestones for the third character are listed chronologically. For the fourth character, choose a code from Table 4 that most accurately explains how the dispute was resolved (entitlement, negotiated settlement, and arbitration award, full or partial resolution).

If the CCO type was administrative (first character code is either *A* or *B*), then the third and fourth character codes are defaulted to *Z*s. In the case of a CCO that is strictly for acceleration, with no physical change in the planned work (the first character code is a *B*), then the second character code is also defaulted to a placeholder *Z* character.

#### **General Examples:**

CCO's that are strictly for constructive accelerations when there is no change to the final configuration of a planned permanent physical asset are all coded the same, "*BZZZ*," and no additional coding information is necessary.

If the CCO resolves a dispute based on contract administration, but there was no change to the planned work on some permanent physical asset, then the first character will be either *E* or *G*, depending on whether the CCO resolves a notice of potential claim, or an actual claim. From the upper portion of Table 2, select the second character to represent the disputed administrative specification. Finally, assign the third and fourth coding characters from Table 4, "Dispute Disposition," depending on when and how the dispute was resolved.

If a CCO is authorized by an administrative specification and there is no formalized dispute involved, the first character will be *A*. Select the second character from the upper portion of Table 2 and the third and fourth characters will both default to the placeholder letter *Z*. No other coding information is necessary in this particular example.

This procedure will be incorporated into the next revision of Chapter 5-307B of the *Construction Manual* and is available along with a "CCO Code Generator" on the Division of Construction's Intranet website:

<http://www.dot.ca.gov/hq/construc/cpb/cpbindx.htm>

This site also has links to the attachments.

Attachments: Tables 1, 2, 3, & 4  
Specific CCO Code Examples

# CCO Coding System

**Table 1: CCO Type (Character 1)**

Administrative	Contract or Supplemental Work	A	CCO used to pay for work or adjustments already authorized by specifications (supplemental work, quantity adjustments, etc.)  (Use only the Specification codes from the upper portion of <b>Table 2</b> for the second character, and Zs for the third and fourth characters)
	Acceleration	B	CCO used to accelerate certain planned work. Describe the reason for acceleration in the transmittal memo (public convenience, staging coordination, delay mitigation, etc.)  (Use only Zs for subsequent code characters 2, 3, and 4)
Plan or Specification Change	Non-CRIP	C	CCO needed to change plans or specifications for reasons unrelated to a cost reduction incentive proposal (CRIP).  (Use only the Physical Asset codes from <b>Table 2</b> for the second character, and <b>Table 3</b> for the third and fourth characters)
	CRIP-related	D	CCO needed to change plans or specifications due to a CRIP  (Use only the Physical Asset codes from <b>Table 2</b> for the second character, and <b>Table 3</b> for the third and fourth characters)
Dispute Resolution	Potential Claim	E	CCO either fully or partially resolves certain notices of potential claim (NOPCs) due to some dispute over contract administration.  (Use the Specification codes from the upper portion of <b>Table 2</b> for the second character, and <b>Table 4</b> for the third and fourth characters)
		F	CCO either fully or partially resolves certain NOPCs due to a dispute over an ordered change, which affected some physical asset.  (Use either the Physical Asset codes from the lower portion of <b>Table 2</b> for the second character, and <b>Table 4</b> for the third and fourth characters)
	Claim	G	CCO either fully or partially resolves certain contract claims due to some dispute over contract administration.  (Use the Specification codes from the upper portion of <b>Table 2</b> for the second character, and <b>Table 4</b> for the third and fourth characters)
		H	CCO either fully or partially resolves certain contract claims due to a dispute over an ordered change, which affected some physical asset.  (Use the Physical Asset codes from the lower portion of <b>Table 2</b> for the second character, and <b>Table 4</b> for the third and fourth characters)

# CCO Coding System

Table 2: Specification, or Physical Asset (Character 2)

Table 2: Specification, or Physical Asset (Character 2)			
Authorizing Specification Standard Specifications (No.) or Special Provision (SP)	A	4-1.03B(1 & 2):	Quantity adjustments
	B	4-1.04:	Detour repair
	C	5-1.116:	Differing site conditions
	D	7-1.01A(5):	Apprentice training
	E	7-1.08:	Public convenience
	F	8-1.07:	Miscellaneous time adjustments
	G	8-1.09:	Right-of-Way delay
	H	8-1.10:	Utility and non-highway facilities
	I	9-1.08:	Overhead cost adjustment
	J	12-2, 12-4:	Flagging and other temporary traffic control
	K	15-2.05:	Unsuitable reconstruction material
	L	19-1.04:	Buried man-made objects
	M	19-2.02:	Unsuitable earthwork material
	N	19-2.04:	Slides and slipouts
	O	20-4.03:	Planting area rock and debris removal, disposal
	P	20-5.025, 86-1.06:	Maintaining existing facilities
	Q	SP:	California Paving Asphalt Index price adjustment
	R	SP:	Dispute Review Board meetings
	S	SP:	Interest for late payments
	T	SP:	Value analysis meetings (Not CRIPs)
	U	SP:	Partnering meetings
	V	SP:	Quality control/assurance
	W	SP:	Other listed supplemental work (Describe in transmittal memo) (Use only if no other code describes this supplemental work)
	X	Other:	Other (Describe the "other" specification in transmittal memo)
Affected Permanent Physical Asset	A	Building (maintenance facilities, pump stations, etc.)	
	B	Electrical (signals, lighting, communications, electrical systems, etc.)	
	C	Drainage (culvert, subsurface, roadway drainage, gutters, lined ditches, etc.)	
	D	Earthwork (excavation, embankment, soil stabilization, slope protection, erosion control, etc.)	
	E	Landscaping (plants, irrigation, etc.)	
	F	Materials (borrow or disposal sites, surplus, salvage, etc.)	
	G	Property (fence, survey monument, easements, Right-of-Way obligations, etc.)	
	H	Structure (vehicle or pedestrian)	
	I	Base, subbase, shoulder backing	
	J	Surfacing (pavement, pavement reinforcing, shoulders, sidewalks)	
	K	Traffic control devices (barriers, railing, signing, delineation, etc.)	
	L	Utility	
	M	Wall (retaining, sound, aesthetic, etc.)	
	X	Other (Describe the "other" affected permanent physical asset in transmittal memo)	

# CCO Coding System

**Table 3: Source Document (Characters 3 and 4)**

(Use **Table 3** only when the first character code is *C* or *D* from **Table 1**)

Code	Description	Code	Description
A	Agreement	A	Cooperative
		B	Permit
		C	Right-of-Way obligation
C	Certificate	A	Environmental clearance
		B	Right-of-Way clearance
G	Survey	A	Data/Control
		B	Detailed cross-sections
M	Materials	A	Log of test borings
		B	Information handout, brochure
P	Plan	A	Construction detail
		B	Contour grading
		C	Electrical
		D	Elevation view
		E	Environmental mitigation
		F	Erosion control
		G	Foundation
		H	General cross-sections
		I	Irrigation
		J	Layout/Plan View
		K	Mechanical
		L	Pavement delineation
		M	Planting
		N	Profile
		O	Schedule of materials
		P	Signage
		Q	<i>Standard Plans</i>
		R	Substructure
S	Specification	A	Special Provision
		B	<i>Standard Specifications</i>
T	Temporary Plan	A	Construction area signs
		B	Construction easements
		C	Construction staging
		D	Electrical
		E	Erosion control
		F	Environmentally Sensitive Area (ESA)
		G	Lane closure chart
		H	<i>Standard Plans</i>
		I	Water Pollution Control/Prevention (WPCP or SWPPP)
		J	Traffic handling
		K	Traffic management plan
A,C,G,M, P,S,T	Any of above	X	Other specific document (Describe in transmittal memo)
X	Other	X	Other (Describe in transmittal memo)



# CCO Coding System

**Table 4: Dispute Disposition (Characters 3 and 4)**

(Use **Table 4** only when the first character code is *E, F, G, or H*, from **Table 1**, representing a Dispute Resolution)

Character 3 (Time Frame)		
Code	Chronological Milestone	
<b>Potential Claims</b> (Use only when first character code from <b>Table 1</b> is <i>E or F</i> )	A	Prior to a "Differing Site Condition Management Review Committee" (DSC-MRC) hearing
	B	Prior to a "Dispute Review Board" (DRB) hearing
	C	Prior to the "Construction Contract Acceptance" (CCA) date
	D	Prior to the Proposed Final Estimate (PFE) date
<b>Claims</b> (Use only when first character code from <b>Table 1</b> is <i>G or H</i> )	E	Prior to a "Board of Review" (BOR) hearing
	F	Prior to an Arbitration Filing
	G	Prior to the Arbitration Hearing
	H	Prior to the Arbitrator's Decision
	I	After the Arbitrator's Decision
Character 4 (Resolution Authority)		
Code	Description	
A	Entitlement, Partial Resolution (Describe unresolved issues in transmittal memo)	
B	Entitlement, Full Resolution	
C	Negotiated Settlement, Partial Resolution (Describe unresolved issues in transmittal memo)	
D	Negotiated Settlement, Full Resolution	
E	Arbitration Award, Partial Resolution (Describe unresolved issues in transmittal memo) (Use only with first character code from <b>Table 1</b> is <i>G or H</i> )	
F	Arbitration Award, Full Resolution (Use only with first character code from <b>Table 1</b> is <i>G or H</i> )	
X	Other (Describe in transmittal memo)	